



Fire Prevention Services
Campus Security and Safety
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EFFECTIVE USE OF A FIRE EXTINGUISHER REQUIRES THE KNOWLEDGE OF SOME FIRE BASICS

ANATOMY of a FIRE

Fire is a chemical reaction that occurs when a material oxidizes rapidly. For this reaction to happen the three elements of the fire triangle must be present:

Fuel	Any combustible or flammable material could be a solid, liquid or gas.
Oxygen	21% of the atmosphere
Heat	Needed for ignition and sustenance for the fire

In order to extinguish a fire one of the elements of the triangle must be eliminated or the chemical reaction of fire must be disrupted.

FIRE CLASSES

Fire is grouped into classes, according to the fuel involved:

Class A	Ordinary combustibles-Wood, Paper, Trash
Class B	Flammable liquids gases or greases
Class C	Energized electrical equipment
Class D	Combustible metals i.e.; titanium, magnesium and sodium
Class K	Kitchen fires; animal fat, vegetable fat or fats in cooking appliances

FIRE EXTINGUISHER TYPES

Dry Chemical	Found in fire hose cabinets, labs, kitchens Low pressure vessel with pressure gauge Multi-purpose agent rated for A, B, and C fires Interrupts the chemical reaction of fire
Carbon Dioxide	Found in labs, mechanical and other areas High pressure vessel without pressure gauge Gas agent rated for Class B and C fires Rapidly cools fuel and displaces oxygen

FIGHTING FIRES with FIRE EXTINGUISHERS

If confronted with a fire, first send for help, then activate the fire alarm and then consider using a fire extinguisher.

DO NOT try to fight a fire if:

- ✓ it is producing copious quantities of smoke.
- ✓ it is large and growing.
- ✓ it could cut off your exit.
- ✓ you are unsure about the use of the extinguisher.

If you decide to use the extinguisher, keep 6-8 feet from the fire and keep your exit at your back. Remember the word **PASS**, this will prompt proper fire extinguisher technique.

P	Pull the pin; this unlocks the handle mechanism. Hold the extinguisher by the lower handle.
A	Aim the nozzle, hose or horn at the base of the fire.
S	Squeeze the handle levers, this allows the pressurized agent to discharge at the fire's base.
S	Sweep from side to side.

TEN THINGS TO REMEMBER ABOUT FIRE SAFETY IN HIGH-RISE BUILDINGS

1. **Know where the exits are.** An emergency is not the time to learn your building's floor plan. In a fire, visibility may be obscured and you may have little time to escape. There should be an evacuation plan posted for your location; learn it. You should know the two closest ways out from anywhere in the building. When in an unfamiliar building make this your first priority. Evacuation plans should be a vital part of a new-employee orientation in your building.
2. **When the fire alarm sounds, GET OUT.** There's no such thing as crying wolf in fire safety. Alarms are designed to warn building occupants and give them enough time to get out. As you leave, close the door behind you. If you are teaching a class or lab, you are responsible for halting the class. Go to the department's prearranged location for individuals to check in after leaving the building.
If you take alarms for granted, you are taking your life for granted.
3. **Take the stairs, not the elevator.** Elevators may be programmed to travel to the ground floor and stay there upon activation of the fire alarm system. If not, they may take would-be escapees to the floor where the fire is or get stuck between floors. Stairways in buildings are your emergency pathway to safety. Stairways are designed to keep smoke, heat and flame out and have emergency lighting systems if there is a loss of power.
4. **Get down for life.** Unless you are in the basement, go down to exit the building. Fire department ladders may not reach to upper floors or the roof but what can is deadly smoke, heat and flames. Contrary to what Hollywood presents, rooftops rescues are rare and difficult and by no means guaranteed. If you evacuate to the roof or an upper floor, you may be evading a rescue and only find temporary refuge from the fire. By descending the stairways, you may encounter light smoke or haze but it's the more positive thing to do.
5. **Don't make a trap; keep fire doors closed and stairways/corridors clear.** Fire doors in corridors and stairways are designed to block fire and deadly effects. Fire doors propped open will endanger everyone in the building. If you see one propped open, CLOSE it. If you notice a fire door isn't closing properly, REPORT it at once to the Physical Plant. Never store items, especially combustible items in stairways or corridors. They will impede egress and could ignite and spread fire.
6. **Don't make a trap; keep your office safe.** Fire hazards are magnified in a multi-story building. Don't increase your risk by stacking your office with papers or other items. High stacks of material may block sprinklers or smoke detectors, obstruct escape and rescue, and may burn. DO NOT keep flammable chemicals in your office and exercise extreme caution with coffee makers.
7. **Don't make a trap; keep your lab safe.** Lab safety is always important, but failure to meet safety requirements puts everyone in your building in danger. Follow the university policy on lab safety.
8. **Know the locations of fire extinguishers and fire hoses in the building.** If you have the training and are not endangering yourself or others in the process, you may be able to keep a small fire from growing. The fire department should be notified and building occupants alerted for *any* fire. Even a small fire can give off large volume of smoke and grow quickly. Know when to fight the fire and when to retreat.
9. **Know what to do if you are trapped.** If your exits are blocked by heavy smoke or fire, retreat as far as you can while closing, but not locking, as many doors between you and the fire as possible. If it is possible call 911 and give them your exact location. If smoke starts coming in, try sealing the door. Open an exterior window and try to signal the fire department, be ready to close it if smoke is drawn into your refuge.
10. **Practice.** If you are in charge of a lab or department, stage mandatory drills. Fire drilling and fire safety training are good team building exercises.

FOR ANY SAFETY QUESTIONS, INFORMATION OR ADDITIONAL TRAINING
CONTACT EHS 471-3511

How to Use a Fire Extinguisher



It's easy to remember how to use a fire extinguisher if you can remember the acronym **PASS**, which stands for **PULL**, **AIM**, **SQUEEZE**, and **SWEEP**.

Pull



the pin

Pull the pin.

This will allow you to discharge the extinguisher.

Aim



Aim at the base of the fire.

If you aim at the flames (which is frequently the temptation), the extinguishing agent will fly right through and do no good. You want to hit the fuel.

Squeeze ↓



the handle

Squeeze the top handle or lever.

This depresses a button that releases the pressurized extinguishing agent in the extinguisher.

Sweep



side to side

Sweep from side to side

until the fire is completely out. Start using the extinguisher from a safe distance away, then move forward. Once the fire is out, keep an eye on the area in case it re-ignites.